

Scientific, Industry, Innovation, and Governance Landscape for Biotechnology Research and Development in the United States and India - A Virtual Workshop

Committee

Shefali Misra

Co-Chair

Shefali Misra currently serves as the Group Vice-President of Public Policy and Government Affairs at Biocon, a global biopharmaceutical company operating in 120 countries. She plays a pivotal role in advancing research and development and innovation agendas across the pharmaceutical, public health, and biotechnology sectors. With over 23 years of experience, she has provided trusted counsel on public health, pharmaceutical policy, agriculture, livelihoods, and media to non-profit organizations, bilateral agencies, the United Nations Food and Agriculture Organization, United Nations Swiss-DEZA, government and the corporate sectors in India, South Asia, and the United Kingdom. She is deeply passionate about harnessing the combined power of biotechnology, digitization, and sustainability (Industry 4.0) to drive transformative change. A recipient of the prestigious TATA fellowship for promising women professionals, Misra's impactful report titled "Save our Girls (India)" was adapted into a documentary, where she served as the lead narrator. The documentary garnered international acclaim, winning awards at renowned film festivals. Misra received an undergraduate degree in philosophy from Lady Shri Ram College for Women and an M.A. from the School of Social Work at the University of Delhi. She also earned an M.Sc. in public policy from the London School of Economics and holds a Post Graduate Diploma in counselling psychology from Xavier's Institute, University of Mumbai, and certifications in Sustainable Agriculture from Henan Agriculture University, China, and in Evaluating Social Programs from MIT-IFMR.

Deepti Tanjore

Co-Chair

Deepti Tanjore is currently the Director of the Advanced Biofuels and Bioproducts Process Development Unit (ABPDU) at the Lawrence Berkeley National Laboratory. She interfaces with several scientists from industry, academia, and start-ups, each tackling scale-up challenges for synthetic biology-based technologies. Tanjore's interests lie in addressing industry-wide issues and developing technologies that no single company is incentivized to pursue. Her research focuses on modelling the impact of bioprocess conditions on microbial heterogeneity and developing in-line analytical tools for real-time adaptation of process development in bioreactors, i.e. self-driving bioreactor. Tanjore received a Ph.D. in biological engineering from Pennsylvania State University and an MBA from the University of California, Berkeley Haas School of Business. She is currently a member of the National Academies' Standing Committee on Advances and National Security Implications of Transdisciplinary Biotechnology. Deepti is a co-founder of enScale Bio, a tech startup building an AI-enabled collaboration platform for optimizing biomanufacturing workflows. She is also a limited Partner in CAL Innovation, a series A fund from Haas UC Berkeley.

Sarah Carter

Member

Sarah R. Carter currently serves as the Principal at Science Policy Consulting LLC, where she focuses on societal and policy issues related to the bioeconomy, including government oversight and regulation, industry practices, responsible innovation, and biosecurity. In recent years, she has supported the Nuclear Threat Initiative (NTI) on projects related to DNA synthesis screening and the implications of artificial intelligence (AI) for biosecurity. She is also a Senior Fellow at the Federation of American Scientists, where she works on issues related to the broader bioeconomy, including U.S. government policy for biotechnology and biomanufacturing and its intersections with environmental sustainability. Previously, she worked in the Policy Center of the J. Craig Venter Institute and at the White House Office of Science and Technology Policy (OSTP). She is a former AAAS S&T Policy Fellow and a former Mirzayan Fellow of the National Academies. Carter received a B.S. in biology from Duke University and a Ph.D. in neuroscience from the University of California, San Francisco.

Smita Kale

Member

Smita Kale currently serves as the Director of Sanovaskale Technologies Pvt Ltd and serves as Advisor for Bioincubation at Venture Center in Pune, India. At Sanovaskale, she is responsible for overseeing research and development project management, driving business development, and providing leadership to the team for the past two years. Concurrently, at the Venture Center, Kale leads the Center for Biopharma Analysis and Biotechnology Industry Research Assistant Council's (BIRAC) Regional Bioinnovation Center projects at the Venture Center. As a member of the Incubation team, she is actively mentoring startups, aiding them in securing grants such as Biotechnology Ignition Grant (BIG), Small Business Innovation Research Initiative (SBIRI), and other government funding opportunities for the past six years. She previously served as an Assistant Professor at Sinhgad College of Pharmacy in Pune, India for 12 years. Kale received a Ph.D. in pharmaceutical chemistry from the Institute of Chemical Technology, Mumbai.

Srividhya Ragavan

Member

Srividhya Ragavan currently serves as a Professor of Law and Director of International Programs at Texas A&M School of Law. Her expertise is in access to medications and health; intellectual property; and trade and development, with a particular focus on public health towards innovation and intellectual property rights in pharmaceuticals. She has previously served as the First Texas Instruments Visiting Scholar at the Center for Advanced Study & Research on Intellectual Property at the University of Washington. Her recent book, "Intellectual Property Law and Access to Medicines" (Eds., Vanni, Routledge 2021) earned her the PESCA grant and was listed as one of Book Authority's Best New Intellectual Property reads in 2022. Additionally, she is an elected member of the American Law Institute and has held positions including an Adjunct Fellow with the Research Information System for Developing Countries, New Delhi; a Fulbright Nehru CORE Scholar and a Fulbright Specialist for the South Asia Region. Ragavan received a BA. LLB (Honors) from the National Law School of India University in Bangalore with a merit certificate, pursued her LL.M with the Overseas Development Agency Shared Scholarship Scheme (ODASS) from King's College, University of London, and earned her SJD from the George Washington University Law School.

Amit K. Rai

Member

Amit Kumar Rai currently holds the position of Scientist D at the Department of Biotechnology (DBT), National Agri-Food Biotechnology Institute (NABI) in Mohali, Punjab, India. Prior to this, he served as a scientist at the DBT-Institute of Bioresources and Sustainable Development in Sikkim, India from 2012 to 2023. His current research focus is on the exploration of microbial resources to produce value-added products, fermented foods, bioactive peptides, and industrially important enzymes. He is recognized as an Associate Fellow of The Indian National Science Academy (INSA) and Elected Member of National Academy of Science, India. Rai has received numerous awards, including INSA Distinguished Lecture Fellow 2024, Young Scientist Award 2022 from International Bioprocessing Association 2019, Young Scientist Award 2016 from Association of Food Scientists and Technologists (India), Young Scientist Award 2015 by Association of Microbiologist of India, and AU-CBT Excellence Award 2009 by the Biotech Research Society of India. Rai received a doctorate from CSIR-Central Food Technological Research Institute, Mysore.

Anurag S. Rathore

Member

Anurag S. Rathore is an Institute Chair Professor at the Department of Chemical Engineering, Indian Institute of Technology in New Delhi, India. He also serves as the Coordinator for the Department of Biotechnology's Centre for Excellence for Biopharmaceutical Technology. His previous roles included management positions at Amgen Inc., Thousand Oaks, California and Pharmacia Corp., St. Louis, Missouri. His areas of interest include process development, scale-up, technology transfer, process validation, biosimilars, continuous processing, medical image analysis, process analytical technology, and quality by design. He has been awarded the Tata Transformation Prize 2023 and Agilent Thought Leader Award 2020. He is presently serving as the Editor-in-Chief of The AAPS Journal and Associate Editor for Journal of Chemical Technology and Biotechnology. Rathore received a Ph.D. in chemical engineering from Yale University. Anurag is part of the Advisory Board of Zumutor Biologics and co-founder of several startups including Clensta International, Edna Bio, and Growdea and owns a stake in these companies.

Taslimarif Saiyed

Member

Taslimarif Saiyed currently serves as the CEO and Director of C-CAMP. Additionally, he is an Adjunct Faculty Member at the Indian Institute of Technology (IIT), Madras and the Amrita Institute - School of Biotechnology. He previously served as a Management Consultant with QB3 New Biotech Venture Consulting and has provided consultancy services for many biotech firms in the United States. At C-CAMP, he leads the Discovery to Innovation Accelerator program, actively involved in promoting innovation in life science and healthcare by supporting the translation of discoveries to application, entrepreneurship, and technology development. Saiyed received a Ph.D. from Max-Planck Institute for Brain Research in Germany and pursued postdoctoral training at the University of California, San Francisco (UCSF). Saiyed furthered his expertise through management training for Biotech and Innovation from QB3 at UC Santa Cruz, UC Berkeley, and UC San Francisco, along with completing a biotech management program at the Wharton School of Management.

Anil Sawant

Member

Anil Sawant is currently the Senior Vice President of Global Quality Transformation at Merck & Co., where he is focused on utilizing digital technologies and analytics for remote quality and compliance oversight of technology transfer, biomanufacturing, and quality control. Previously, he held executive positions at Johnson & Johnson and Pfizer. With over 30 years of experience in the biopharmaceutical industry, Sawant's expertise lies in quality and compliance, pharmaceutical microbiology, business ethics, auditing, and research and development functions. His contributions include working on various dosage forms, drugs, biologics, vaccines, and medical devices; notably serving as the Quality Head for the development and commercialization of novel biologics. He is the Chair of the Board of Directors at the Parenteral Drug Association and a board member of the non-profit, Mind Your Brain Foundation. He has served on the Board of Directors of the Georgia State University (GSU) Alumni Association and is a recipient of the GSU Distinguished Alumni Award and PDA Distinguished Service Award. Sawant received a B.Sc. Honors and a M.Sc. Honors in microbiology and biochemistry from Panjab University in India, and a Ph.D. in microbial and biochemical sciences from GSU.